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Studies on the Neotropical Species of *Stenus*
Described By Bernhauer
(Coleoptera, Staphylinidae)Seventy-eighth Contribution to the Knowledge of Steninae¹VOLKER PUTHZ²

Bernhauer was one of the most famous specialists in the family Staphylinidae. His rich collection is now stored in Field Museum of Natural History, Chicago. From the viewpoint of modern systematics Bernhauer's descriptions are mostly inadequate. For example, he never published a figure of an aedeagus of a species of *Stenus*. He did not adequately apply the polytypic species concept in interpreting his material, nor did he understand the phenomenon of local variation in widespread organisms. Therefore, it is necessary to revise all his species and give additional remarks. Already, 51 of the 217 species of *Stenus* that he described are regarded as synonyms.

In this monograph I have revised Bernhauer's neotropical species of *Stenus*, except the following: *antennarius* 1916 (Brazil), *pampanus* 1927 (Argentina), *semimarginatus* 1921 (Argentina), and *transitus* L. Benick 1921 (= *submarginatus* Bernhauer 1912 nec Stephens 1833) (Argentina); all species of the artificial subgenus *Tesnus* Rey, known only from female type-material); (*Parastenus*) *klimschi* 1916 (Brazil), and (*s. str.*) *schneiderianus* 1929 (Mexico), of which I know only the females, identifiable by diagnoses. I have previously (1969b) synonymized the following:

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² Accepted for publication in January, 1974.

<i>bonariensis</i> Bernhauer 1912	= <i>speculifrons</i> Fauvel 1877 (fig. 65)
<i>naevius</i> Bernhauer 1922	= <i>notipennis</i> Fauvel 1891
<i>thiemei</i> Bernhauer 1916	= <i>denticollis</i> Fauvel 1901

None of the species discussed below are conspecific with the neotropical *Stenus* species described by Sharp in 1876 and 1886.

The Bernhauer species are treated in alphabetical order without regard to their phylogenetic relations which may be touched on below in the separate discussions.

My thanks are due Dr. Rupert L. Wenzel, Chairman of the Department of Zoology, Field Museum of Natural History, Chicago, for the loan of Bernhauer's type material.

***Stenus (Hypostenus) angulipennis* Bernhauer 1908. Figures 3, 4, 74.**

Stenus angulipennis Bernhauer 1908, Arch. Natur., 74, p. 297 f.

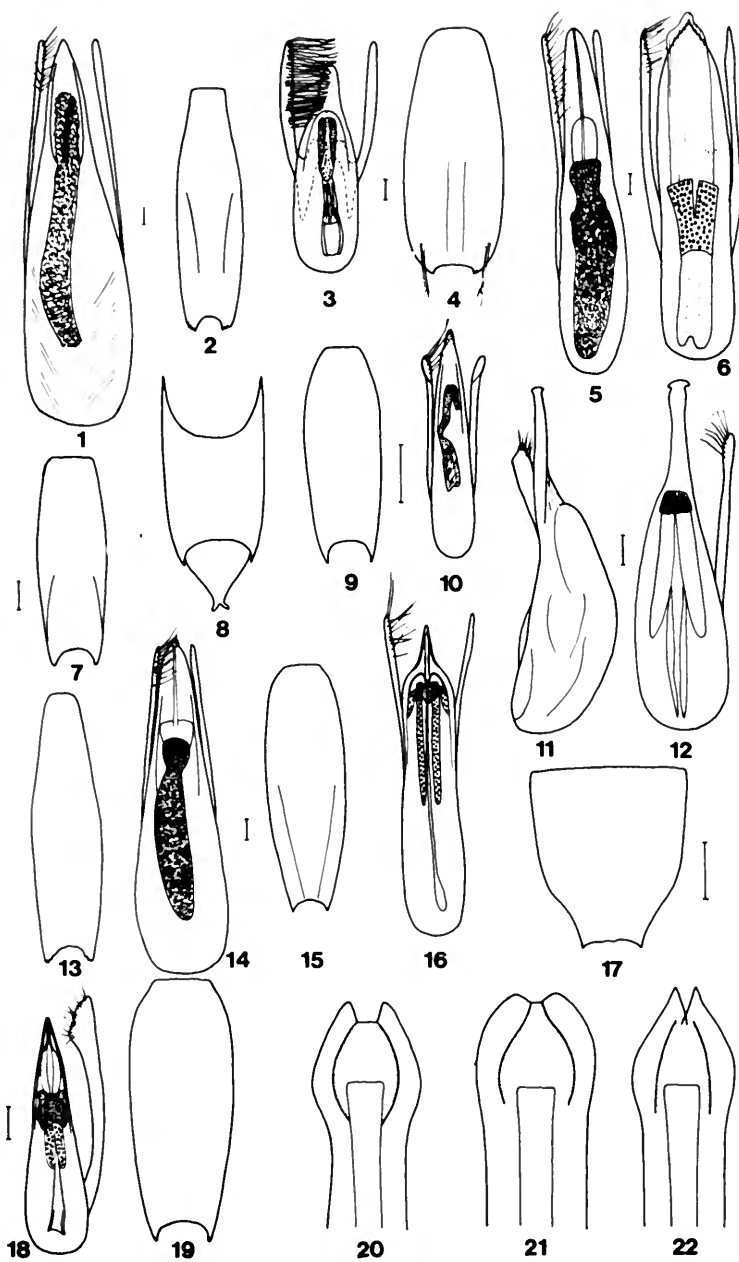
Material examined.— ♂ holotype, 4 ♀♀ paratypes (one without abdomen), and one specimen from the type locality (Bernhauer coll., Deutsches Entomologisches Institut, my coll.).

Stenus angulipennis is very remarkable for its humeri, which are angulately elevated and extremely densely punctate, much more so than the rest of elytra. I do not know any other species of *Stenus* that is comparable in this character.

Head distinctly narrower than elytra (not "almost as wide as"); body without any ground sculpture.

MALE: 4th to 6th sternites less densely punctate in the middle than on the sides, especially near the posterior margin; 7th sternite with a distinct and narrow but not deep triangular

FIGS. 1-22. **1,2.** *Stenus (Parastenus) aquatensis* Bernhauer (holotype): (1) ventral aspect of aedeagus; (2) 9th sternite. **3,4.** *Stenus (Hypostenus) angulipennis* Bernhauer (holotype): (3) ventral aspect of aedeagus; (4) 9th sternite. **5.** *Stenus (Parastenus) brasili-anus* Bernhauer (holotype): ventral aspect of aedeagus. **6.** *Stenus (Hypostenus) barbiellini* Bernhauer (holotype): ventral aspect of aedeagus. **7.** *Stenus (Parastenus) bruchi* Bernhauer (topotype): 9th sternite of male. **8-10.** *Stenus (Hypostenus) bakeri* Bernhauer (holotype): (8) 9th and 10th tergite; (9) 9th sternite; (10) ventral aspect of aedeagus. **11,12.** *Stenus (Parastenus) bruchi* Bernhauer (topotype): (11) lateral and (12) ventral aspect of aedeagus. **13,14.** *Stenus (Parastenus) novoteutonicus* Wendeler (Nova Teutonia): (13) 9th sternite; (14) ventral aspect of aedeagus. **15,16.** *Stenus (Hypostenus) cordilleranus* Bernhauer (holotype): (15) 9th sternite; (16) ventral aspect of aedeagus. **17-19.** *Stenus (Hypostenus) crassipex* Bernhauer (paratype): (17) 10th tergite; (18) ventral aspect of aedeagus; (19) 9th sternite. **20-22.** Apical portion of median lobe: (20) *Stenus (Hypostenus) pelidnus* L. Benick (paratype). (21) *Stenus (Hypostenus) curtipennis* Bernhauer (holotype). (22) *Stenus (Hypostenus) artipennis* L. Benick (paratype). Scale = 0.1 mm.



emargination in the middle of the posterior margin, and anterior to this on posterior half is a shallow impression in which the punctation and pubescence is fine and very dense, especially on the sides of the emargination; 8th sternite (fig. 74); 9th sternite (fig. 4); 10th tergite broadly rounded at the smooth, posterior margin. Aedeagus (fig. 3) broad, its median lobe broadly rounded at apex. The following internal structures are conspicuous: short longitudinal expulsion bands, a strongly sclerotized expulsion mechanism (apically), and a membranous internal sac with fine longitudinal striae. The parameres are distinctly longer than the median lobe, its insertion parts unusually enlarged, the anterior half with a close brush of very long setae.

***Stenus (Parastenus) aquatalensis* Bernhauer 1916. Figures 1, 2, 75.**

Stenus aquatalensis Bernhauer 1916, Wien. Entomol. Zeit., **35**, p. 177 f.

Stenus aquatalensis, L. Benick 1938, Mitt. Münchn. Entomol. Ges., **28**, p. 281.

Material examined.—♂ holotype (Bernhauer coll.)

The head is somewhat narrower than the elytra, middle of frons nearly as broad as each of the side portions, distinctly elevated and smooth, sides finely and sparsely punctate. Punctation of pronotum much coarser, a shallow longitudinal furrow in the middle. Punctation of elytra sparse and much finer than that of pronotum. Punctation of the anterior tergites also fine, finer than near the eyes, some ground sculpture present on the 7th tergite.

MALE: 8th sternite (fig. 75); 9th sternite (fig. 2); 10th tergite rounded at its smooth posterior margin. Aedeagus (fig. 1) long, its median lobe continually narrowed towards a somewhat triangular apex; in the middle of the anterior portion of the internal sac there are many strongly sclerotized structures, the rest is membranous and irregularly sculptured. The parameres are slender, reaching the apex of the median lobe, and having few fine setae.

Stenus aquatalensis is easy to identify because of its remarkable sexual characters and the large yellow elytral spot.

***Stenus (Hypostenus) argentinus* Bernhauer 1921**

Stenus argentinus Bernhauer 1921, Wien. Entomol. Zeit., **38**, p. 101 f.

Material examined.—♀ holotype (Bernhauer coll.).

This species belongs to the difficult *aenescens*-group and might easily be confused with other species that are similar in general facies.

Anterior tergites with perceptible microsculpture; ground sculpture of tergite 7 very dense and distinct.

Female: Valvifers with a long apicolateral tooth; 10th tergite spade-like.

In Bernhauer's collection there are also two females from Buenos Aires, Tigre, 1937, M. J. Viana leg. These differ from the type by absence of the ground sculpture of the anterior tergites (cf. *argentinus*).

***Stenus (Hypostenus) bakeri* Bernhauer 1910. Figures 8-10, 64.**

Stenus bakeri Bernhauer 1910, Verh. zool. bot. Ges. Wien, **60**, p. 364.

Stenus bakeri, L. Benick, 1938, Mitt. Münchn. Entomol. Ges., **28**, p. 269.

Stenus bakeri, Blackwelder, 1943, Bull. U. S. Nat. Mus., **182**, p. 213 f.

Material examined.— ♂ holotype (Bernhauer coll.); 2♂♂, 1 ♀ from Almendares, Prov. Habana, 23.X.1932, Bierig leg. (Bernhauer coll.; my coll.); 1♂, 1 ♀ from Aspiro, Prov. P. R., 28.XII.1933 and 2.I.1934, Bierig leg.; 1♂ from Laguna la Canoa, Prov. P. Rio, 27.X.1929, Bierig leg.; 1 ♀ from Viñales, Prov. P. Rio, X.1936, Bierig leg.; 1♂ from Artemisa, Prov. P. Rio, 4.VIII.1929, Portuguis leg. (all Field Museum of Natural History); 3 ♂♂, 1 ♀ from Soledad, 2.-12.VIII.1934, Darlington leg. (U. S. National Museum; my coll.) [all from Cuba].

For positive identification of this species, couplet 144 (145) of the Benick key (1938) should be corrected to read as follows:

“Kleinste Art : 2.0-2.5 mm, 10. Tergit gegabelt.” (The rest should be omitted).

The head is distinctly somewhat narrower than the elytra. Length of body : 2.0-2.5 mm.

MALE : 8th sternite (fig. 64); 9th sternite (fig. 9); 10th tergite (fig. 8). Aedeagus (fig. 10) slender, its median lobe continually rounded towards a slightly broad apex, ventrally with some minute granules. Internal sac basally strongly sclerotized without any squamae (as in *cubensis* Bernhauer). Parameres much shorter than median lobe, spoon-shaped with some very long setae at their ends.

***Stenus (Hypostenus) barbiellinii* Bernhauer 1908. Figures 6, 68.**

Stenus barbiellinii Bernhauer 1908, Arch. Natur., **74**, p. 298.

Material examined.— ♂ holotype, one ♀ co-type, and one ♂ from Sta. Anna, Umg. São Paulo Brazil, 18.10.1900, Riedel leg. (Bernhauer coll.).

Stenus barbiellinii is not closely related to *operosus* Erichson; it is much more similar to *frustratus* L. Benick and *subfrustratus* Puthz. It differs from both in its sexual characters.

MALE : 8th sternite (fig. 68); 9th sternite at the posterior margin, apicolaterally, with one short tooth; 10th tergite rounded. Aedeagus (fig. 6) broad, the median lobe narrowed towards acute apex. Inside there are large expulsion bands and a large membranous internal sac, which is everted in the holotype. The slender parameres are somewhat shorter than the median lobe and have many setae at their apices.

***Stenus (Parstenus) brasilianus* Bernhauer 1916. Figures 5, 63.**

Stenus brasilianus Bernhauer 1916, Wien. Entomol. Zeit., **35**, p. 179

Material examined.— ♂ holotype (Bernhauer coll.).

This species does not resemble Sharp's *pedator* (as stated in the diagnosis). It is much more closely related to *novoteutonicus* Wendeler,

from which it differs by its narrower head, its less dense punctation of the pronotum, and by the aedeagus, whose median lobe has no button-shaped apex (cf. fig. 14). The aedeagus of *brasilianus* closely resembles that of *costipennis* L. Benick from Costa Rica.

MALE: Metatrochanters with a long tooth, metatibiae with a strong apical spine. Sternites 4 and 5 somewhat concave along the middle and somewhat more sparsely punctate than on the sides; at its posterior margin, 6th sternite shallowly but distinctly emarginated, feebly impressed medially, finely and sparsely punctate; 7th sternite at its posterior margin with a moderately broad and very feeble emargination, somewhat concave and very finely and densely punctate and with yellow pubescence along the middle; 8th sternite (fig. 63); 9th sternite much as in *novoteutonicus* (fig. 13); 10th tergite rounded. Aedeagus (fig. 5) of the type not fully sclerotized; apex of median lobe broadly rounded and with two fine longitudinal lines in the middle; within are "ananas-tufts" (anteriorly), large, strongly sclerotized teeth (medially), and a finely structured membranous portion (basally). Parameres somewhat shorter than the median lobe, with many setae internally.

Stenus (Hypostenus) brasiliensis Scheerpeltz 1933

Stenus brasiliensis Scheerpeltz 1933 (nom. nov.), Col. Cat., **129**, p. 1174.

Stenus brasiliensis Bernhauer 1929 (nec Bernhauer 1916), Entomol. Nachrbl., Troppau, **3**, p. 123.

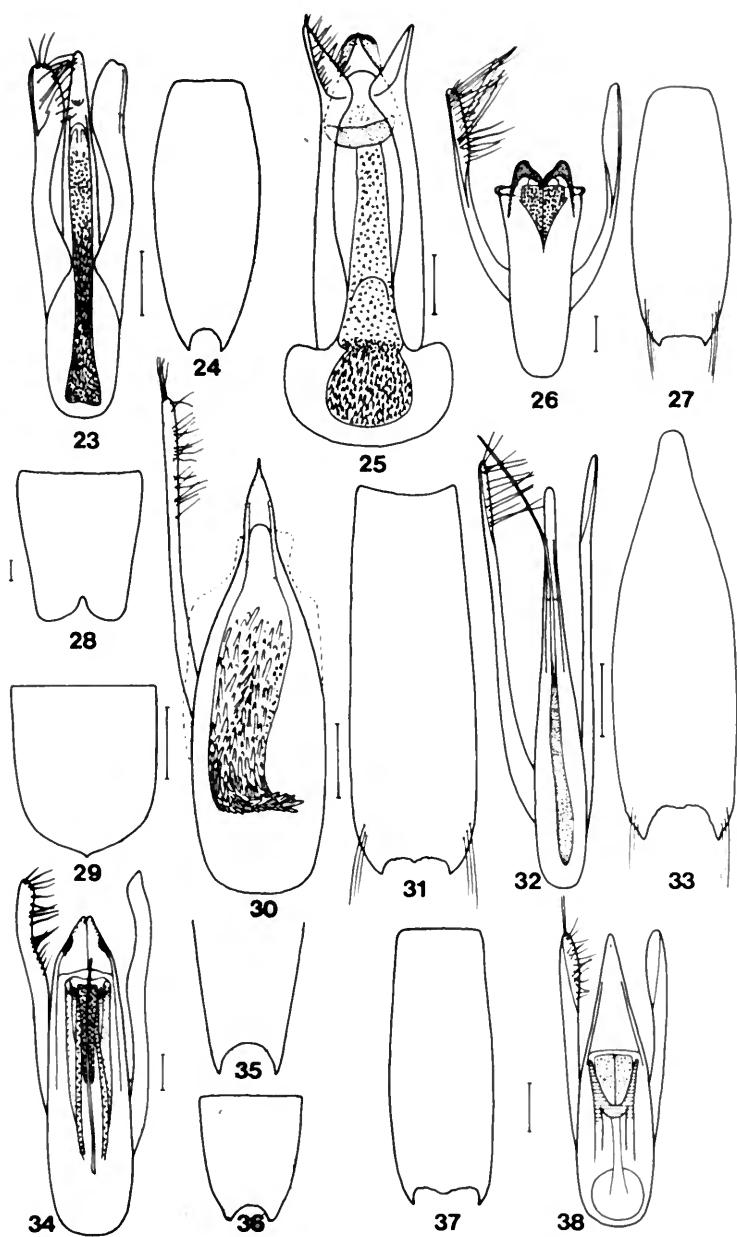
Stenus profundepunctatus Bernhauer 1922 (nec L. Benick 1916), Verh. zool. bot. Ges. Wien, **71** (1921), p. 9.

Material examined.—♀ holotype (Bernhauer coll.).

This species belongs to the very difficult *elongatus-albipes* complex and strongly resembles *spissicollis* L. Benick. Among the species of this group it is remarkable for its short length (3.7-4.0 mm.), slender general facies, and coarse abdominal punctation.

Middle of the frons not entirely shallow (as in *elongatus* Erichson and *spissicollis* L. Benick) but feebly elevated, not very conspicuous; no smooth portion in the middle of the front, only a very small shining plaque near the posterior margin of the eyes. Tergite 7 without ground sculpture; pubescence of abdomen more conspicuous and erect (contra species of the *ariolus* group) as in both above-named species.

FIGS. 23-38. **23,24.** *Stenus (Hypostenus) cubensis* Bernhauer (holotype): (23) ventral aspect of aedeagus; (24) 9th sternite. **25.** *Stenus (Hypostenus) leptocerus* Bernhauer (holotype): dorsal aspect of aedeagus. **26,27.** *Stenus (Hypostenus) cyaneosplendens* Bernhauer (Nova Teutonia): (26) ventral aspect of aedeagus; (27) 9th sternite. **28-31.** *Stenus (Hypostenus) subleptocerus* n. sp. (holotype): (28) 8th sternite; (29) 10th tergite; (30) ventral aspect of aedeagus; (31) 9th sternite. **32,33.** *Stenus (Hypostenus) moritzi* Bernhauer (Columbia): (32) ventral aspect of aedeagus; (33) 9th sternite. **34-36.** *Stenus (Hypostenus) captus* L. Benick (Isla Martin Garcia Buenos Aires): (34) ventral aspect of aedeagus; (35) posterior portion of 9th sternite; (36) 10th tergite. **37,38.** *Stenus (Hypostenus) parcepunctatus* Bernhauer (holotype): (37) 9th sternite; (38) ventral aspect of aedeagus. Scale = 0.1 mm.



Female : Valvifers at their posterior margin without any tooth, somewhat crenulated; 10th tergite with a distinct but shallow emargination at its smooth posterior margin.

***Stenus (Parastenus) bruchi* Bernhauer 1912. Figures 7, 11, 12.**

Stenus bruchi Bernhauer 1912, Entomol. Blätter, **8**, p. 171 f.

Material examined.—♂ holotype (Bernhauer coll.), one ♂ topotype (my coll.), one ♀ from Isla Los Cisnes, Paraná Delta (Argentina), V-XI 1920, H. E. Fox (British Museum, Natural History).

This species is remarkable for its robust general facies and the very strongly enlarged femora of the males, which have also big spines at the meso- and metatibiae. Sternite 8 with a triangular excision in the posterior third; 9th sternite (fig. 7); 10th tergite with a semicircular emargination at the posterior margin. Aedeagus (figs. 11, 12) strongly sclerotized; anterior portion (definition : see Puthz, 1971) slender in its median lobe, enlarged apically and broadly rounded; parameres much shorter than the median lobe, with few setae.

Stenus bruchi resembles *S. perssoni* Puthz (Brazil) and *condei* Wendeler (Brazil) but can be separated easily by its sexual characters.

***Stenus (Hypostenus) callipennis* Bernhauer 1911. Figure 79.**

Stenus callipennis Bernhauer 1911, Deut. entomol. Z., **1911**, p. 405.

Material examined.—♀ holotype and one ♂, Prov. Buenos Aires, Isla Martin Garcia, I. 1938, M. J. Viana leg. (Bernhauer coll.).

This species belongs to a group of relatively small species (*plaumanni*-group), in which positive identification through examination of their general facies is very difficult, but most of the species have specific apomorphic characters on the last abdominal segments, especially on the 10th tergite, which are of great taxonomic value. In general facies *S. callipennis* closely resembles *subleptocerus* n.sp. (see below).

MALE : 8th sternite (fig. 79); 9th sternite as in Figure 9.; 10th tergite (in both sexes) rounded at its smooth posterior margin, feebly pronounced in the middle (somewhat resembling that of *frontalis* Erichson, cf. Puthz, 1967a, fig. 38). Aedeagus (Puthz, 1971, fig. 23) broad, its median lobe broadly rounded anteriorly, with a distinct triangular median excision; ventrally it exhibits many short setae and two fine lateral keels; within are strongly sclerotized claspers (anteriorly), expulsion bands, and a membranous internal sac; parameres very long and large, with very many strong setae.

The best identification characters of this species are the 8th sternite of the male and the shape of the 10th tergite in both sexes.

***Stenus (s.str. + Nestus) colonus weiseri* Bernhauer 1927**

Stenus Weiseri Bernhauer 1927, Arch. Natur., (A), **12**, p. 234 f.

Stenus colonus weiseri, Puthz, 1967, Deut. entomol. Z., (N.F.), **14**, p. 140.

I know this subspecies from several specimens in the Prague Museum and my collection.

The 9th sternite of the male and the aedeagus closely resemble those of *colonus* Erichson (cf. Puthz, 1967a, figs. 16, 17), but the apical portion of the median lobe is slightly shorter, with less distinct ventral keels.

***Stenus (Hypostenus) operosus* Erichson 1840 (= *convexus* Bernhauer 1911, *ogloblini* Bernhauer 1939).**

Stenus operosus Erichson 1840, Gen. Spec. Staph., p. 736.

Stenus operosus, Puthz, 1967, Mitt. Zool. Mus. Berlin, **43**, p. 327.

Stenus convexus Bernhauer 1911, Deut. entomol. Z., **1911**, p. 406, *New synonym*.

Stenus ogloblini Bernhauer 1939, Revista Entomol., Rio de Janeiro, **10**, p. 236 f., *New synonym*.

Material examined.— ♀ holotype (*convexus*) (Bernhauer coll.), 1 ♂ from Buenos Aires, Isla Martin Garcia, 1939, M. J. Viana leg., and 1 ♀ from Rio Paraná, Territoire de Mission, coll. le Moul't (Argentina) (Bernhauer coll.). — ♀ holotype (*operosus*) (Zoological Museum Berlin); 1 ♀ from Santa Fé, Rosario, XII.1917, José Hubrich (Argentina) (my coll.); 2 ♂♂, 1 ♀ from Rio Grande do Sul, Porto Allegro, XII.1958, K. E. Hüdepohl (Brazil) (Bavarian State Collection, Munich; my coll.); 1 ♀ from Maldonado Plata (Uruguay), C. Darwin leg. (British Museum, Natural History) and 1 ♀ from Itu 35 miles W. Sao Paulo (Brazil), 14.I.1959, A. M. Nadler leg. (American Museum of Natural History).

All the above specimens belong to one species which is considerably variable and remarkable for two features : (1) the conspicuous sexual dimorphism and (2) the asymetrical aedeagus (cf. Puthz, 1971, figs. 2, 10, 11, 18). Bernhauer described the male of *convexus* and its sexual characters in his diagnosis of *S. ogloblini*, which he thought to be a different species from *convexus*, because of the conspicuous differences between the male and the female.

***Stenus (Hypostenus) antillensis* L. Benick 1917. Figures 57, 58, 60.**

Stenus antillensis L. Benick 1917, Entomol. Blaetter, **13**, p. 301 f.

Stenus antillensis, Blackwelder, 1943, Bull. U. S. Nat. Mus., **182**, p. 226.

This species is closely related to *operosus* Erichson, which also has extraordinary sexual characters.

MALE (type) : 8th sternite (fig. 57); 9th sternite (fig. 58); 10th tergite in both sexes at its posterior margin regularly serrated with a minutely prominent portion in the middle (fig. 60).

The aedeagus (Puthz, 1971, fig. 17) has an asymmetrical median lobe and parameres which are very remarkably triangularly enlarged at their apices. I know only these two *Stenus* species to have asymmetrical genitalia, without doubt an apomorphic—in this case synapomorphic—character state. A third species from Brazil with an asymmetrical aedeagus will be described later.

***Stenus (Hypostenus) cordilleranus* Bernhauer 1922. Figures 15, 16, 77.**

Stenus cordilleranus Bernhauer 1922, Verh. zool. bot. Ges. Wien, **71** (1921), p. 8 f.

Stenus cordilleranus, L. Benick, 1938, Mitt. Münchn. Entomol. Ges., **28**, p. 277.

Material examined.—♂ holotype (Bernhauer coll.).

This species belongs to the usually very uniform *elongatus-albipes* group, in which it is somewhat isolated by virtue of its short antennae whose apical segments are scarcely twice as long as wide.

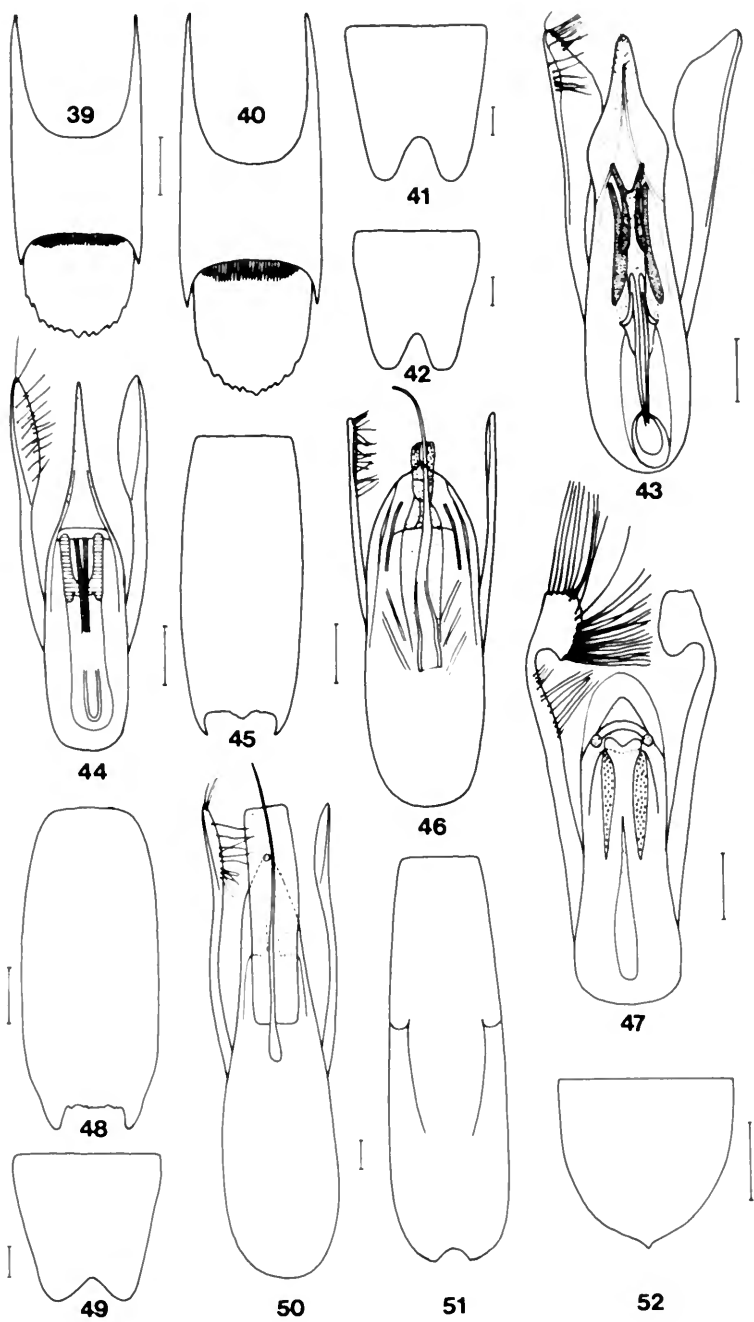
Frons entirely even. Ground sculpture present only on tergites 7 and the following ones.

MALE: 8th sternite (fig. 77); 9th sternite (fig. 15); 10th tergite apically rounded at its smooth posterior margin. Aedeagus (fig. 16) long, median lobe concavely narrowed towards distinctly acute apex, somewhat curved in lateral aspect, apico-ventrally with two longitudinal keels; within are longitudinal expulsion bands, a strongly sclerotized mechanism basally, and a long and slender internal sac; parameres extending well beyond the median lobe, their apices in lateral aspect with relatively few setae.

Positive identification of *cordilleranus* using Benick's (1938b) key is impossible. It has to be placed after couplet 273(272). It differs from *nevermanni* L. Benick by its length and shorter antennae.

Since *cordilleranus* is closely related to *S. subconcentus* L. Benick (= *glaucinus* L. Benick), I give here the figures of the sexual characters of that species, from the type (figs. 55, 56, 59). I have also examined some specimens from "Bucay," Ohaus leg. (Museum Dresden, Munich, and my

FIGS. 39-52. **39.** *Stenus (Hypostenus) parcepunctatus* Bernhauer (holotype): 9th and 10th tergite. **40-42.** *Stenus (Hypostenus) plaumanni* L. Benick (Isla Martin Garcia Buenos Aires and (42) holotype): (40) 9th and 10th tergite; (41,42) 8th sternite. **43.** *Stenus (Hypostenus) peruvianus* Bernhauer (holotype): ventral aspect of aedeagus. **44,45.** *Stenus (Hypostenus) plaumanni* L. Benick (Isla Martin Garcia Buenos Aires): (44) ventral aspect of aedeagus; (45) 9th sternite. **46.** *Stenus (Hypostenus) pauloensis* Bernhauer (holotype): ventral aspect of aedeagus (expulsed). **47.** *Stenus (Hypostenus) sanctaecatharinae* Bernhauer (paratype): ventral aspect of aedeagus. **48.** *Stenus (Hypostenus) pauloensis* Bernhauer (holotype): 9th sternite. **49.** *Stenus (Hypostenus) sanctaecatharinae* Bernhauer (paratype): 8th sternite of male. **50,51.** *Stenus (Hypostenus) subcoeruleus* Bernhauer (holotype): (50) ventral aspect of aedeagus (expulsed); (51) 9th sternite. **52.** *Stenus (Hypostenus) leptocerus* Bernhauer (holotype): 10th tergite. Scale = 0.1 mm.



collection) which are closely related to *cordilleranus*. In these insects the apical portion of the median lobe ("Apikalpartie" sensu Puthz 1971) is scarcely concave laterally but more distinctly curved in lateral aspect.

Stenus (Hypostenus) crassipes Bernhauer 1912. Figures 17-19, 78.

Stenus crassipes Bernhauer 1912, Entomol. Blätter, **8**, p. 169 f.

Material examined.—♂ holotype, ♂ paratype, and 1♂, 1♀, Prov. Buenos Aires, H. Richter leg. (Bernhauer coll.)—♂ paratype (British Museum), ♀ cotypic and 1♂ from Argentina, Pucapampa, XII. 1919, J. Weiser leg. (Museum Prague)—1♀, from type locality (my coll.).

This species belongs to the difficult *aenescens*-group.

MALE : Legs without any special sexual characters. Metasternum impressed, coarsely and densely punctate. Sternites 3-5 coarsely and densely punctate in the middle, punctation of the middle of 6th sternite decreasing in coarseness posteriorly, extremely fine and sparse, almost extinct, in the posterior third; 7th sternite with a distinct but not deep triangular emargination posteriorly, impressed along the middle, finely and very densely punctate at the anterior margin of the impression, finely and not so densely punctate and pubescent in the middle; 8th sternite (fig. 78); 9th sternite (fig. 19); 10th tergite (fig. 17). Aedeagus (fig. 18) with a median lobe which is split anteriorly and an oval ventromedian pit; within are a strongly sclerotized basal expulsion mechanism, longitudinal expulsion bands, and a membranous internal sac; parameres distinctly longer than the median lobe, triangularly enlarged at their ends, which have few setae.

Stenus (Hypostenus) cubensis Bernhauer 1910. Figures 23, 24.¹

Stenus cubensis Bernhauer 1910, Verh. zool. bot. Ges. Wien, **60**, p. 364 f.

Stenus cubensis, L. Benick, 1938, Mitt. Münchn. Entomol. Ges., **28**, p. 270.

Stenus cubensis, Blackwelder, 1943, Bull. U. S. Nat. Mus., **182**, p. 225 f.

Material examined.—♂ holotype (Bernhauer coll.) and 1♀, Playa Guanabo, Habana, 5.I.1931; 1♂, Rio Almendares, Habana; 1♀, Rio Cristal, Habana, 10.III.1938; 1♀, Jamaica, Habana, 17.II.1929; 1♀, Laguna La Canoa, P. Rio, all Cuba, all Bierig leg. (all Field Museum of Natural History, Chicago).

If positive identification of this species is to be possible, Benick's key should be changed : couplet 163(164) must be omitted and couplet 160(161) should be completed as follows:

"160(161) a(b) 10. Tergit gabelförmig *arcuatus* Erichson

b(a) 10. Tergit nicht gabelförmig

c(d) Elytren viel breiter als der Kopf; 10. Tergit apikomedian zugespitzt, die

¹ See Puthz, in press.

- Spitze ventral ohne zahnartigen Vorsprung. Länge: 3.0 mm *pueblanus* Bernhauer²
 d(c) Elytren deutlich, aber nicht viel breiter als der Kopf; 10. Tergit apikomedian
 zugespitzt, an das des *punctatus* Erichson erinnernd (vgl. Puthz 1967a: fig.
 41), die Spitze ventral aber mit zahnartigem Vorsprung. Länge: 2, 5 mm *cubensis* Bernhauer"

The legs are testaceous, bases of tibiae and tarsi reddish-yellow. Head much narrower than the elytra, these distinctly longer than the pronotum.

Male: 8th sternite with a triangular emargination in its posterior third; 9th sternite (fig. 24); 10th tergite acutiform, apex ventrally with a toothlike protuberance. Aedeagus (fig. 23) with a narrow median lobe which is rounded at apex and has a little tooth on the dorsal side anteriorly; within is a long membranous internal sac with irregular squamae anteriorly and large squamae basally, somewhat resembling the structure in *S. punctatus* Erichson, to which *cubensis* is closely related; parameres a little shorter than the median lobe, with many strong setae.

***Stenus (Hypostenus) curtippennis* Bernhauer 1909. Figures 21, 67.**

Stenus curtippennis Bernhauer 1909, Boll. Soc. Entomol. Ital., **60** (1908), p. 233.

Stenus curtippennis, L. Benick, 1921, Stettin. Entomol. Zeit., **82**, p. 122.

Material examined.—♂ holotype; 1♀, Rio Janeiro, XII.1839, Sahlberg leg.; 1♂, Petropolis, XII.1850, Sahlberg leg.; 1♂ from the same locality, II.1857, J. Gray leg. (Bernhauer coll.); 1♂, Rio de Janeiro (British Museum); 7♂♂, 5♀♀, Rio Janeiro, Macahe, A. Fry (Field Museum; my coll.); 15♂♂, 14♀♀, Bras. Est., Biol. Boracea Salesopolis, SP, 25.-26.XI.1969, J. M. & B. A. Campbell leg.; 79♂♂, 100♀♀, ibid, 17.-26.XII.1969, J. M. and B. A. Campbell leg. (Museum Ottawa; my coll.).

This species is closely related to *S. pelidnus* L. Benick and *S. artipennis* L. Benick, from which it can be distinguished as follows:

- 1 (2) More slender, punctuation of the elytra sparser, interstices at least as large as half the diameter of a puncture; apex of median lobe as in Figure 20
 *pelidnus* L. Benick
- 2 (1) More robust, punctuation of elytra denser
- 3 (4) Elytra shorter, strongly widened posteriorly; pronotum more convex, often with a minute shining plaque in the middle; apex of median lobe as in Figure 22.
 *artipennis* L. Benick
- 4 (3) Elytra longer, more parallel-sided; pronotum less convex, without any shining plaque in the middle; apex of median lobe as in Figure 21 *curtippennis* Bernhauer

MALE: 6th sternite more finely punctate near the posterior margin than on the sides; 7th sternite with a very shallow emargination at its posterior margin, shallowly concave along the middle, finely and somewhat densely punctate and pubescent, much more densely so than on the sides; 8th sternite (fig. 67); 9th sternite with a distinct but minute tooth apicolaterally; 10th tergite narrowly rounded and somewhat produced in the middle of

² cf. Puthz, 1972.

its smooth posterior margin. Aedeagus (fig. 21): median lobe more robust and less concave laterally than that of *S. pelidnus* L. Benick; parameres shorter than in *S. pelidnus* and much shorter than in *S. artipennis* L. Benick.

***Stenus (Hypostenus) cyaneosplendens* Bernhauer 1916. Figures 26, 27, 76.**

Stenus cyaneosplendens Bernhauer 1916, Wien. Entomol. Zeit., 35, p. 176.

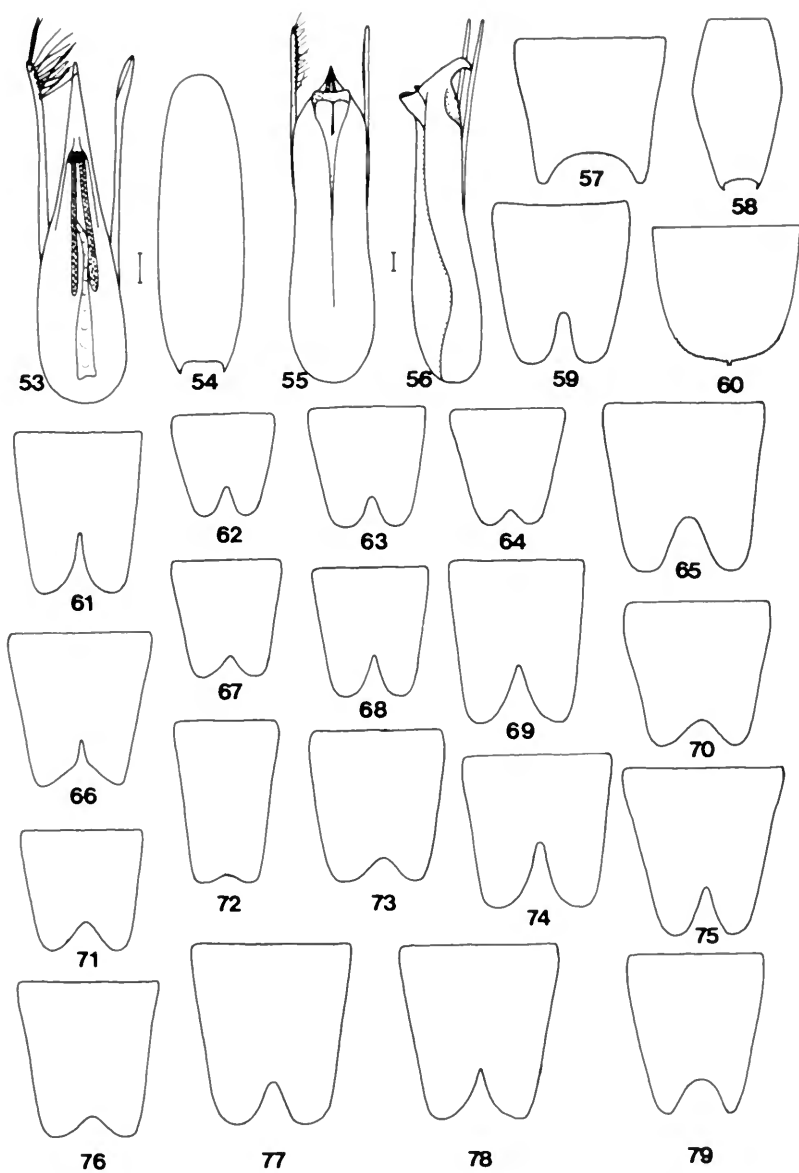
Stenus franckei Wendeler 1956, Dusenja, 7, p. 38 f.

Material examined.— ♀ holotype and ♀ cotype (Bernhauer coll.) 1♂ cotype (British Museum); ♀ holotype of *S. franckei* Wendeler (Zoological Museum, Berlin); 8♂♂, 2♀♀, Sta. Catharina, Nova Teutonia, Brazil, XII. 1938, Plaumann leg. and 1♂, 1♀ : same locality, X. 1938 (Museum Stockholm; my coll.).

This species is very closely related to *S. violaceus* Bernhauer and I am not sure about the specific validity of the observed differences. As long as the male characters of *violaceus* remain unrecognized, it is not possible to determine whether or not the two species are conspecific. At present the two can be separated as follows:

- 1 (2) Somewhat larger, dark-blue-aeeneous or nearly black; legs entirely black or of a dark-blue-aeeneous colour, at least trochanters and bases of femora in the females somewhat luscous. Punctuation of pronotum denser and more irregular, that of the elytra denser with scarcely conspicuous shining areas in their exterior thirds. In proportion to the head, the elytra are larger and longer *cyaneosplendens* Bernhauer
- 2 (1) Somewhat smaller, dark-violet; trochanters and bases of femora reddish-yellow or reddish. Punctuation of pronotum less dense, also that of the elytra, these with distinct

FIGS. 53-79. **53,54.** *Stenus (Hypostenus) tabascensis* Bernhauer (holotype): (53) ventral aspect of aedeagus; (54) 9th sternite. **55,56.** *Stenus (Hypostenus) subconcentus* L. Benick (holotype) (55) ventral and (56) lateral aspect of aedeagus. **57,58.** *Stenus (Hypostenus) antillensis* L. Benick (holotype): (57) 8th sternite of male; (58) 9th sternite. **59.** *Stenus (Hypostenus) subconcentus* L. Benick (holotype): 8th sternite of male. **60.** *Stenus (Hypostenus) antillensis* L. Benick (holotype): 10th tergite. Figs. 61-79. 8th sternite of males (different scales). **61.** *Stenus (Hypostenus) subcoeruleus* Bernhauer (holotype). **62.** *Stenus* (s. str.) *solidus* L. Benick (Colombia). **63.** *Stenus (Parastenus) brasiliensis* Bernhauer (holotype). **64.** *Stenus (Hypostenus) bakeri* Bernhauer (holotype). **65.** *Stenus (Hypostenus) speculifrons* Fauvel (holotype of *bonariensis* Bernhauer). **66.** *Stenus (Hypostenus) captus* L. Benick (Isla Martin Garcia Buenos Aires). **67.** *Stenus (Hypostenus) curtippennis* Bernhauer (holotype). **68.** *Stenus (Hypostenus) barbiellinii* Bernhauer (holotype). **69.** *Stenus (Hypostenus) tabascensis* Bernhauer (holotype). **70.** *Stenus (Hypostenus) parcepunctatus* Bernhauer (holotype). **71.** *Stenus (Hypostenus) peruvianus* Bernhauer (holotype). **72.** *Stenus (Hypostenus) moritzi* Bernhauer (Colombia). **73.** *Stenus (Hypostenus) pauloensis* Bernhauer (holotype). **74.** *Stenus (Hypostenus) angulipennis* Bernhauer (holotype). **75.** *Stenus (Parastenus) aquatilis* Bernhauer (holotype). **76.** *Stenus (Hypostenus) cyaneosplendens* Bernhauer (Nova Teutonia). **77.** *Stenus (Hypostenus) cordilleranus* Bernhauer (holotype). **78.** *Stenus (Hypostenus) crassipes* Bernhauer (holotype). **79.** *Stenus (Hypostenus) callipennis* Bernhauer (Isla Martin Garcia Buenos Aires).



shining areas in exterior two-thirds. In proportion to the head the elytra are narrower and shorter *violaceus* Bernhauer

Male: 4th-6th sternites smooth and shining along the middle; 7th sternite with a broad and very shallow emargination at its posterior margin, before it a little spot which is densely and finely punctate and pubescent; 8th sternite (fig. 76); 9th sternite (fig. 27); 10th tergite somewhat produced in the middle of the posterior margin. Aedeagus (fig. 26) with a broad median lobe, which is enlarged anteriorly into lateral tips and has apically two triangular structures, which are strongly sclerotized; parameres very conspicuous, extending beyond the median lobe, with many setae.

Female: The 10th tergite has a very shallow, scarcely visible emargination at the posterior margin.

***Stenus (Hypostenus) denieri* Bernhauer 1939**

Stenus denieri Bernhauer 1939, Revista Entomol., Rio de Janeiro, **10**, p. 237 f.

Material examined.— ♀ holotype (Bernhauer coll.).

This species belongs to the difficult *elongatus-albipes*-complex in which positive identification often is possible only by dissecting the males. In general, facies *denieri* bears a strong resemblance to *S. pilifrons* L. Benick (type). The two can be distinguished (inadequately) as follows:

- 1 (2) Middle of frons scarcely elevated, punctuation denser on the sides, interstices smaller than half the diameter of punctures, in the middle they barely attain the size of half the diameter of a puncture. Abdominal punctuation in the middle of tergites somewhat sparser than on the sides. Ground sculpture of tergite 7 somewhat superficial, that of tergite 8 dense and distinct *denieri* Bernhauer
- 2 (1) Middle of frons entirely even, punctuation sparser, also on the sides, but distinctly in the middle, where the interstices are conspicuously larger than half the diameter of a puncture. Abdominal punctuation at middle of tergites not sparser than on sides. Ground sculpture lacking on tergite 7, rather superficial on tergite 8 *pilifrons* L. Benick

In the American Museum of Natural History, New York and in my collection, there are two females "cf. *denieri*" (det. Puthz) from Argentina, Puerto Magdalena Misiones, 15.X.1964, A. Kovacs leg.

***Stenus (Parstenus) fossipennis* Bernhauer 1922**

Stenus fossipennis Bernhauer 1922, Verh. zool. bot. Ges. Wien, **71** (1921), p. 10 f.

Material examined.— ♀ holotype (Bernhauer coll.).

The type is a somewhat immature specimen in which the elytra nevertheless are conspicuously more lightly colored than the rest of the surface.

S. fossipennis is remarkably for its punctuation, particularly that of the elytra; there are punctures which nearly attain the size of the x-section of the 3rd antennal segment; interstices

at least twice as wide as diameters of punctures; ground sculpture superficial and widely-meshed, giving the elytra a rather greasy lustre.

FEMALE : 8th sternite roundly produced in the middle of its posterior margin. Valvifers serrate at posterior margin, not distinctly pointed.

***Stenus (Hypostenus) leptocerus* Bernhauer 1911. Figures 25, 52.**

Stenus leptocerus Bernhauer 1911, Deut. entomol. Z., p. 405.

Material examined.— 2♂♂ types (Bernhauer coll.).

This species belongs to the difficult *plaumanni-speculifrons*-group.

Head with five remarkable shining plaques and few extremely fine punctures between them. Penultimate segments of antennae cylindrical, about twice as long as broad. Pronotum in the middle with a distinct shining plaque, punctation not dense, interstices larger than half the diameter of a puncture, yet larger at the sides; average puncture larger in diameter than x-section of the 3rd antennal segment, none attaining that of the 2nd. Elytra nearly quadrate, conspicuously broader than the head, sparsely punctate, particularly in inner third. Abdominal punctation anteriorly, in the basal constrictions, somewhat finer than on pronotum, elsewhere twice as fine and very sparse, interstices more than twice as wide as the punctures; on tergite 7, which is finely ground sculptured, the punctation is nearly imperceptible.

MALE: 8th sternite with a very shallow and broad emargination apically (therefore male might often be confused with the female); 9th sternite with two short teeth apicolaterally; 10th tergite (fig. 52) spade-like. Aedeagus (fig. 25) with an acute median lobe and a strongly enlarged basal portion; within are a horizontal strongly sclerotized clasp and a large membranous internal sac with thorns and tufts; parameres extending distinctly beyond the median lobe, triangularly enlarged at their ends, which have many relatively short setae.

***Stenus (Hypostenus) subleptocerus* new species. Figures 28-31.**

This new species, which resembles many other neotropical *Stenus* species, belongs to the *plaumanni-speculifrons*-group, in which the 10th tergite often shows apomorphic characters. In this group it is closely related to *S. leptocerus* Bernhauer, which also has a spade-like 10th tergite.

Description. Black, entire surface shining, without ground sculpture, moderately coarsely and sparsely punctate, slightly pubescent. Antennae with the base yellowish-red, the club brown. Palpi yellow, 3rd segment infusate. Legs yellowish-red, apical third of the femora infusate (but not black), apex of tibiae also a little darker, tarsi brownish. Labrum brown. Length : 3.5 mm.

Head small, narrower than the elytra at base (676:740 μ), narrower than the elytra at its widest point (676:909); frons moderately broad (average distance between eyes : 390), with two distinct convergent furrows, the middle-portion somewhat broader than each of the side-portions, broadly rounded, and distinctly more elevated than the inner eye margins; five shining plaques, two at the bases of the antennae, two near the inner margin of the posterior half of eyes, and one in the middle; beside these shining areas the punctation is fine and moderately dense, the diameter of a puncture slightly smaller than basal x-section of third antennal segment, interstices larger than half the diameter of a puncture.

Antennae, when reflexed, extending somewhat behind the middle of pronotum, penultimate segments slightly longer than broad.

Pronotum somewhat longer than broad (649:584), sides distinctly convex, punctation irregularly and distinctly coarser than that of the head, the diameter of a puncture nearly as large as widest x-section of the third antennal segment; in the middle and on the sides are remarkable shining areas, not broader than three punctures together; on the rest of the surface interstices are about as wide as the diameters of the punctures.

Elytra large, much broader than head (909:676), about as broad as long, humeri somewhat rectangular, sides distinctly roundly enlarged behind, moderately constricted in the posterior fourth, posterior margin deeply excavated (sutural length:727). Sutural and humeral impressions distinct but not deep. The sparse punctation is almost imperceptibly coarser than that of the pronotum, interstices sometimes more than two times as wide as one puncture.

Abdomen cylindrical, slightly narrowed towards apex; basal furrows of the first segments deep; posterior margin of 7th tergite with a distinct membranous fringe. Punctuation about as coarse as that of the head, sparse; on the third tergite the interstices are somewhat larger than the punctures, on the sixth tergite more than twice as large. 10th tergite spade-like (fig. 29).

Legs robust, posterior tarsi about as long as half of the tibiae, first segment shorter than the last; third segment already distinctly triangular, fourth deeply bilobed.

MALE: Sternites 3-5 very slightly depressed, coarsely and densely punctate; 6th sternite, in posterior half, densely and moderately finely punctate; 7th sternite somewhat shallow in the middle, very densely and finely punctate and pubescent; 8th sternite (fig. 28); 9th sternite (fig. 31). Aedeagus (fig. 30) long, the median lobe lanceolate; internal sac with dense longitudinal tufts; parameres slender, extending far beyond apex of the median lobe, with many long setae.

Stenus subleptocerus n. sp. differs from the very similar *S. leptocerus* Bernhauer, which also has a spade-like 10th tergite, by sparser punctation of the fore-parts, shorter segments of the antennal club, and its sexual characters; from all other neotropical species that are similar in habitus either by the shape of its 10th tergite or by its length and different sexual characters.

♂ holotype; Argentina, Buenos Aires, Isla Martin Garcia, I.1938, M. J. Viana leg. (Bernhauer coll.).

***Stenus (Hypostenus) nigricans* Sharp 1876 (= *magniceps* Bernhauer 1916).**

Stenus nigricans Sharp 1876, Trans. Entomol. Soc., London, p. 371.

Stenus magniceps Bernhauer 1916, Wien. Entomol. Zeit., 35, p. 175. New synonym.

This species belongs to the *ariolus*-group which is represented in Central and South America by numerous species that are very similar in general facies and also very variable. Positive identification is often possible only by dissecting the males.

Material examined. — ♂ holotype and ♀ paratype of *nigricans* (British Museum); 1♂, S. Am. (British Museum); 2♂♂ Brazil (British Museum); 3

♂♂, 3♀♀, Sta. Catharina, Brazil, Klimsch leg. (Field Museum; my coll.); 1♂, Brazil, Para IPEAN, Belem, 1.-4.XII. 1969, J. M. and B. A. Campbell leg. (Museum Ottawa) 3 ♂♂, 2 ♀♀, Brazil, Para, Faz. Pirelli Belem, 24.-25.III.1970, J. M. and B. A. Campbell leg. (Museum Ottawa; my coll.); 2 ♂♂, 1♀, Surinam, Obere Commewyne, II.1908, Heller leg. (Zoological Museum Berlin; my coll.); 1♂, Surinam, Paramaribo, XII.1907 (my coll.); 1 ♂, 1♀, Peru, Huan. Tingo Maria, 19.-24.IV.1969, P. and P. Spangler leg. (U. S. National Museum); ♀ holotype of *magniceps* (Bernhauer coll.).

S. nigricans and *magniceps* were both described from "Para." They are conspecific. The male closely resembles that of *S. anguinus* Erichson (cf. Puthz, 1967a, p. 325 f., figs.), but the apical portion of the median lobe is more triangularly narrowed (not shallowly concave at the sides as in *anguinus*), the parameres are more slender apically. A figure of the aedeagus will be given in the future.

***Stenus (Hypostenus) metallescens* Bernhauer 1911. Figure 80.**

Stenus metallescens Bernhauer 1911. Deut. entomol. Z., 1911, p. 404.

Stenus metallescens, L. Benick, 1928, Wien. Entomol. Zeit., 45, p. 49 f., fig.

Stenus metallescens, L. Benick, 1949, Revista Entomol., Rio de Janeiro, 20, p. 572, fig.

Material examined.— ♀ holotype and 1 ♀ from Buenos Aires (Bernhauer coll.); 2 ♂♂ from the same locality, leg. Bruch 9.VII.1905 (Benick coll.; my coll.); 1♂, Buenos Aires, Isla Martin Garcia, 1939, J. M. Viana leg. (Bernhauer coll.).

MALE: 8th sternite (Benick, 1928, 1949) with a notch in posterior fourth; 9th sternite as usual in the *ariolus*-group; 10th tergite at posterior margin serrated and broadly rounded (serrated also in the female!). Aedeagus (fig. 80) resembling that of *cribriceps* Sharp.

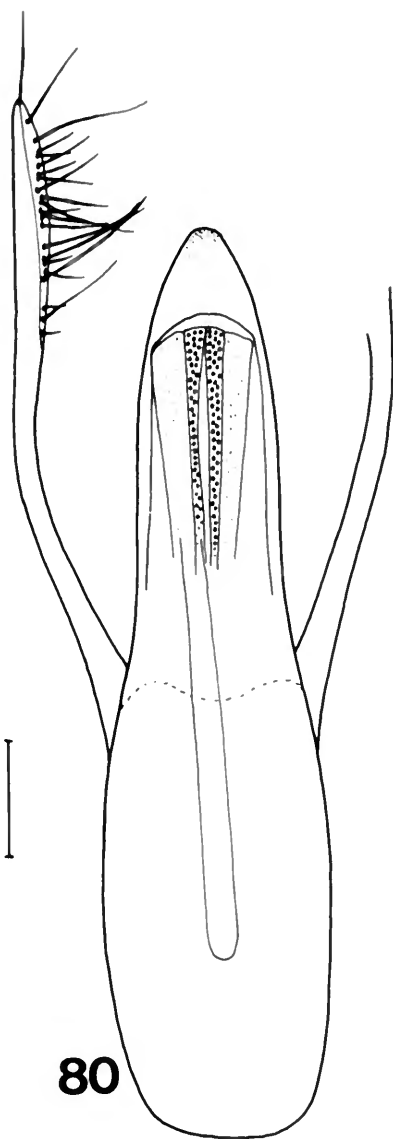
Stenus metallescens belongs to the *ariolus*-group (in its sexual characters) but also closely resembles species of the *frustratus*-complex. It is immediately distinguished by the shape of its 10th tergite. It has been confused with *captus* L. Benick, which has an aeneous shine and is not bluish. For characters of that species, see below.

***Stenus (Hypostenus) captus* L. Benick 1928. Figures 34-36, 66.**

Stenus captus L. Benick 1928, Wien. Entomol. Zeit., 45, p. 44 f.

Material examined.— ♀ holotype in the Museo Civico di Storia Naturale di Genova; 1♂, 1♀, Isla Martin Garcia, Prov. Buenos Aires, 1.1938, M. J. Viana leg.; 1♂, 5♀♀, Prov. Buenos Aires, Richter/ Bruch leg.; 4 ♂♂, 4♀♀, Montevideo, Pantanzo, 20./21. I.1934, Fernandez leg. (all in Bernhauer coll.; my coll.); 2 ♂♂, Prov. Buenos Aires, 9.VII.1905, Bruch leg.

FIG. 80. *Stenus (Hypostenus)*
metallesceus Bernhauer (Isla
 Martin Garcia Buenos Aires):
 ventral aspect of aedeagus. Scale
 = 0.1 mm.



(Museum Prague); 1 ♀, Argentina, Prov. Concordia, entre Rios, M. A. Cazier, Acc. 38904 (American Museum of Natural History); 1 ♀, Argentina, Slt., Salta, 17.-18.V.1966, P. & P. Spangler leg. (U. S. National Museum).

MALE: 8th sternite (fig. 66); 9th sternite (fig. 35); 10th tergite (fig. 36). Aedeagus (fig. 34) long; median lobe split apically and ventrally has a lateral aggregation of short, strong setiform papillae; within there are expulsion bands and a flagelliform internal sac; parameres distinctly longer than the median lobe, curved laterally, with many strong setae at their ends.

This species, also, has often been confused with *aenescens* Lynch Arribalzaga, whose types I do not know (Museum Buenos Aires).

***Stenus (Hypostenus) moritzi* Bernhauer 1908. Figures 32, 33, 72.**

Stenus moritzi Bernhauer 1908, Arch. Natur., **74**, p. 297.

Stenus moritzi, L. Benick, 1938, Mitt. Munchn. Entomol. Ges., **28**, p. 272.

Material examined. — ♀ type and 1 ♂ from Colombia (Bernhauer coll.); 1 ♂ from Colombia (coll. Benick).

MALE: Sternites 3-6 shiny in the middle; 7th sternite with a shallow emargination in front of which it is finely and densely punctate and pubescent; 8th sternite (fig. 72); 9th sternite (fig. 33); 10th tergite fork-shaped (also in the female); Aedeagus (fig. 32) with a long and very slender median lobe and a flagelliform internal sac which extends well beyond the median lobe. Parameres as broad as the apical portion of the median lobe, and extending distinctly beyond it, with many very long setae at their ends.

Benick's (1938b) key should be corrected to read as follows:

197 (196) 10. Tergit gegabelt. Halsschild nach rückwärts allmählich verengt. Gelbfärbung der Tibien höchstens ein Drittel der Länge umfassend. 3,8 - 4,2 mm *moritzi* Bernhauer

***Stenus (Hypostenus) paraguayanus* Bernhauer 1923**

Stenus paraguayanus Bernhauer 1923 (nom. nov.), Wien. Entomol. Zeit., **40**, p. 63.

Stenus parvipennis Bernhauer 1922 (nec Bernhauer 1913, 1919), Verh. zool. bot. Ges. Wien, **71** (1921), p. 10.

Material examined. — ♀ holotype (Bernhauer coll.).

This species also belongs to the *aenescens*-group, in which it closely resembles *S. argentinus* Bernhauer in its general facies and spade-like 10th tergite. The two can be distinguished by their different ground sculpture; in *paraguayanus* the 7th tergite is perceptibly microsculptured, but the anterior tergites are shiny unlike *argentinus*. The female has an extremely shallow apical emargination of the 8th sternite.

Stenus (Hypostenus) parcepunctatus Bernhauer 1912. Figures 37-39, 70.

Stenus parcepunctatus Bernhauer 1912, Entomol. Blätter, 8, p. 170.

Material examined.—♂ holotype (Bernhauer coll.).

This species belongs to the *plaumanni-speculifrons*-group in which it is remarkable for its serrated 10th tergite (rather like *plaumanni* L. Benick).

MALE: 8th sternite (fig. 70); 9th sternite (fig. 37); 10th tergite (fig. 39). Aedeagus (fig. 38) with an evenly and acutely narrowed median lobe, and, inside, a strongly sclerotized mechanism (anteriorly), broad expulsion bands, and a membranous internal sac; parameres as long as the median lobe, their ends spoon-shaped, with many setae.

Phylogenetically *S. parcepunctatus* is the sister-species of *S. plaumanni* L. Benick from which it can be separated as follows:

- 1 (2) Punctuation of pronotum less coarse, average diameter of puncture corresponding nearly to widest x-section of the 3rd antennal segment. *Male*: apical emargination of sternite 8 shallower (fig. 70), median lobe broader (fig. 38). *parcepunctatus* Bernhauer
- 2 (1) Punctuation of pronotum moderately coarse, average diameter of puncture larger than widest x-section of 3rd antennal segment. *Male*: apical emargination of sternite 8 deeper (figs. 41, 42); 9th sternite (fig. 45); 10th tergite (fig. 40), median lobe narrower (fig. 44) *plaumanni* L. Benick

Stenus (Hypostenus) pauloensis Bernhauer 1908. Figures 46, 48, 73.

Stenus pauloensis Bernhauer 1908, Arch. Natur., 74, p. 299.

Material examined.—♂ holotype (Bernhauer coll.); 1 ♂, P. Allegro, Rio Janeiro, Brazil, Hensel leg. (Zoological Museum Berlin).

MALE: 5th sternite broadly shining on its posterior half; 6th sternite broadly concave in its posterior half; 7th sternite with a very shallow emargination at its posterior margin, concave along the middle, without any punctuation but with microsculpture; 8th sternite (fig. 73); 9th sternite (fig. 48); 10th tergite rounded at its smooth posterior margin. Aedeagus (fig. 46) with apex of median lobe small, somewhat acute, strongly sclerotized side-folds ventrally, and a tubular internal sac which is expelled in the type; parameres extending well beyond the median lobe, with many strong setae at their ends.

Stenus (Hypostenus) peruvianus Bernhauer 1908. Figures 43, 71.

Stenus peruvianus Bernhauer 1908, Arch. Natur., 74, p. 299 f.

Material examined.—♂ holotype (Bernhauer coll.).

Phylogenetically this species is the sister-species of *S. speculifrons* Fauvel (= *bonariensis* Bernhauer), both are remarkable for their small heads and comparatively large elytra.

MALE: 6th and 7th sternites more finely and densely punctate and pubescent than anteriorly and on the sides; 8th sternite (fig. 71); 9th sternite with two distinct but short teeth apicolaterally; 10th tergite broadly rounded at its smooth posterior margin. Aedeagus (fig. 43), anterior portion of median lobe large, lancet-like, with many setae and two median

edges ventrally which diverge posteriorly; within are a strongly sclerotized expulsion-mechanism and a broad tubular internal sac, enclosed basally in a membranous sac; parameres large, apices conspicuously enlarged, with many strong setae.

Stenus peruvianus can be separated from *S. speculifrons* as follows:

- 1 (2) Elytra larger, more regularly punctate, abdominal punctation denser. *Male* : 8th sternite (fig. 71); aedeagus (fig. 43)..... *peruvianus* Bernhauer
- 2 (1) Elytra smaller and shorter, more irregularly punctate, interstices sometimes larger than the punctures themselves; abdominal punctation sparser. *Male* : 8th sternite (fig. 65); aedeagus (fig. 13, Puthz 1969)..... *speculifrons* Fauvel

***Stenus* (*Parastenus*) *praececellens* Bernhauer 1916**

Stenus praececellens Bernhauer 1916, Wien. Entomol. Zeit., **35**, p. 178.

Material examined.— ♀ holotype (Bernhauer coll.).

Middle of frons elevated and distinctly, somewhat irregularly smooth, side portions distinctly broader than middle portion. Pronotum distinctly, somewhat longer than broad, punctation very dense, coarse, and rugose. Abdominal punctation coarse but not very dense, interstices in the middle of tergites larger than the punctures themselves; ground sculpture fine and polygonal.

FEMALE: 8th sternite broadly rounded posteriorly. Valvifers smooth at their posterior margin.

***Stenus* (*Hypostenus*) *pueblanus* Bernhauer 1910¹**

Stenus pueblanus Bernhauer 1910, Verh. zool. bot. Ges. Wien, **60**, p. 365 f.

Stenus pueblanus, L. Benick, 1938, Mitt. Münchn. Entomol. Ges., **28**, p. 270.

Stenus pueblanus, L. Benick, 1939, loc. cit., **29**, p. 29.

Material examined.— ♀ holotype (Bernhauer coll.).

In general facies and in the acute 10th tergite, this species strongly resembles some small Central-American *Hypostenus* and the nearctic *S. punctatus* Erichson, but its legs are slightly darker, reddish; its frons has five distinct shining plaques, and the elytra, compared with the head, are even broader and longer. In Benick's (1938b) key this species should be placed after couplet 160(163) *arculus* Erichson (see above).

***Stenus* (*Hypostenus*) *sanctaecatharinae* Bernhauer 1916. Figures 47, 49.**

Stenus sanctae-catharinae Bernhauer 1916, Wien. Entomol. Zeit., **35**, p. 174 f.

Material examined.—Types in Bernhauer and Benick collections.

MALE : 8th sternite (fig. 49). Aedeagus (fig. 47) broad, anterior portion of median lobe membranous; parameres with remarkable knob-like apices.

¹ This species occurs also in the United States (Arizona); see Puthz, 1972.

Stenus (s. str.) solidus L. Benick 1921. Figure 62.

Stenus solidus L. Benick 1921, Entomol. Mitt., **10**, p. 192 (nom. nov.).

Stenus curvipes Bernhauer 1916, Wien. Entomol. Zeit., **35**, p. 173 f. (nec Stephens 1833).

Stenus curvipes, L. Benick, 1917, Entomol. Blätter, **13**, p. 295.

Material examined.—♂ holotype and ♀ paratype (Deutsches Entomologisches Institut, Eberswalde).

MALE: 8th sternite (fig. 62). Aedeagus long, its median lobe broadly enlarged apically (cf. Puthz, 1969a, fig. 3), internally with short longitudinal expulsion bands and a broad tubular internal sac filled with relatively fine tufts or spines and with about nine strong spines; parameres much shorter than the median lobe, their ends with many long setae.

For positive identification, Benick's (1938b) key should be corrected as follows: couplet 10(11) = *lateralis* Motschulsky (= *gutta* Fauvel, cf. Puthz, 1968b, p. 198 f. figs.); couplet 15(16) should be omitted; and couplet 16(15) should read "Hinterleibspunktierung grob, deutlich eingestochen."

Stenus (Hypostenus) subcoeruleus Bernhauer 1916. Figures 50, 51, 61.

Stenus subcoeruleus Bernhauer 1916, Wien. Entomol. Zeit., **35**, p. 176 f.

Stenus subcoeruleus, L. Benick, 1938, Mitt. Münchn. Entomol. Ges., **28**, p. 279.

Material examined.—♂ holotype (Bernhauer coll.), paratypes and other specimens in Benick collection, the Zoological Museum Berlin, the Deutsches Entomologisches Institut, Eberswalde, and in my collection; 2 ♂♂, Venezuela, Las Trincheras, VI.1922, L. R. Reynold leg. (Field Museum; my coll.); 1 ♂, 1 ♀, Venezuela, San Esteban near Puerto Cabello, I.XII.1939, P. J. Anduze leg. (Field Museum).

MALE: Sternites 3-5 very narrowly more sparsely punctate along the middle than on the sides; 6th sternites impressed in its posterior half, very densely punctulate with brush-like pubescence; 7th sternite with an even broader impression, similarly punctulate and pubescent, with a broad and rather shallow emargination at its posterior margin; 8th sternite (fig. 61); 9th sternite (fig. 51); 10th tergite with a very broad and shallow emargination at its posterior margin. Aedeagus (fig. 50) with a long median lobe, which is triangularly narrowed towards apex and has a short median furrow ventroapically; within (everted in the type) is a remarkable flagellum; curved parameres extending well beyond the median lobe, with many setae at their somewhat spoon-shaped ends.

Positive identification is possible using Benick's (1938b) key.

Stenus (Hypostenus) tabascensis Bernhauer 1910. Figures 53, 54, 69.

Stenus tabascensis Bernhauer 1910, Verh. zool. bot. Ges. Wien, **60**, p. 366.

Material examined.—♂ holotype in the British Museum, ♂ paratype in Bernhauer collection.

This species resembles species of the *elongatus-albipes* and *ariolus* group. Ground sculpture is present only on tergite 7 and those following.

MALE: Sternites 4-6 somewhat more finely and sparsely punctate at middle than on sides, without any ground sculpture; 7th sternite with a very shallow and scarcely perceptible emargination at its posterior margin, punctation and pubescence along the middle fine and much denser than on the sides. 8th sternite (fig. 69); 9th sternite (fig. 54); 10th tergite semicircularly rounded at its smooth posterior margin. Aedeagus (fig. 53) with a narrow, acute median lobe; within, basally, are a strongly sclerotized expulsion clasp, long expulsion bands, and tubular internal sac; parameres about equal in length to the median lobe, with many long setae at their ends.

In Benick's (1938b) key (where it is omitted) it should be placed after couplet 266(263) *perforatus* Casey.

***Stenus (Hypostenus) titicacanus* Bernhauer 1908**

Stenus titicacanus Bernhauer 1908, Arch. Natur., **74**, p. 299.

Material examined.— ♀ holotype (Bernhauer coll.).

Phylogenetically this species appears to be the sister species of *S. captus* L. Benick; it also resembles *S. pauloensis* Bernhauer and *S. sellatus* L. Benick, from which it can be separated as follows:

- 1 (2) 10th tergite with posterior margin distinctly emarginate (cf. fig. 36). Length, 4.0 mm. (Peru) *titicacanus* Bernhauer
- 2 (1) 10th tergite without any apical emargination
- 3 (4) Elytra with distinct smooth areas. Length, 4.0 mm. (Brazil) *pauloensis* Bernhauer
- 4 (3) Elytra without any smooth areas. Length, 4.2-4.5 mm. (Brazil) *sellatus* L. Benick

From *S. captus* L. Benick it is distinguished by its more robust habitus and somewhat finer and sparser punctation.

***Stenus (Hypostenus) violaceus* Bernhauer 1906**

Stenus violaceus Bernhauer 1906, Deut. entomol. Z., p. 194 f.

Stenus subviolaceus L. Benick 1921, Stettin. entomol. Zeit., **82**, p. 120 f., *New synonym*.

Material examined.— ♀ holotype (Bernhauer coll.).

Positive identification of this species is possible using the key which I have given above, under *cyaneosplendens*. In my opinion the differences of *subviolaceus* L. Benick quoted by its author do not seem to be of specific value, and *subviolaceus* should be synonymized with *violaceus*.

ADDITIONAL NOTES

- 1. In my thirty-sixth contribution there is a mistake concerning the

North American *Stenus callosus* Erichson. In that species the 10th tergite is not broadly rounded apically but ancoriform, about as in *gentilis* Sharp.

2. Bernhauer described two *Stenus* species from North America : *S. murphyanus* and *S. carolinus*. The ♀ holotype of *murphyanus* is in the Bernhauer coll. It may possibly be conspecific with *S. bilentigatus* Casey, of which I do not know the type. The ♂ holotype of *carolinus* is in Field Museum of Natural History, Chicago. *Stenus carolinus* is closely related to *S. gemmeus* Casey. Differential characters will be given in the future.

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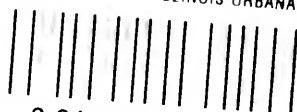
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